

the face slightly yellower than females from Arizona, but the only consistent difference is the white notal hairs of the Nebraska specimens compared with the faintly amberish hairs of the Arizona ones.

Nomadopsis helianthi, as now understood, is one of the most widely distributed species in the genus. Inhabiting arid regions, it ranges from the Great Central Valley of California to the southern tip of Baja California and eastward to western Nebraska.

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A NEW MOSS MITE FROM WESTERN U. S. (ACARINA: ORIBATEI, CEPHEIDAE).¹

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ABSTRACT

The genera of the family are listed and the synonymy of Oribatodes Banks 1895 is discussed briefly. *Sphodrocephus tridactylus*, n. gen., n. sp., is described and figured. Distribution records of the species are indicated for Utah, California, Oregon and Washington.

Balogh (1961) characterizes the family Cepheidae Berlese 1896 as having six pairs of genital setae, a circular or oval hysterosoma and reticulate or rugose integument. He includes the following genera in the family:

- Microtegeus* Berlese, 1917.
- Ommatocephus* Berlese, 1913.
- Eupterotegeus* Berlese, 1916.
- Tritegeus* Berlese, 1913.
- Oribatodes* Banks, 1895.
- Protocephus* Jacot, 1928.
- Cepheus* C. L. Koch, 1836.
- Conoppia* Berlese, 1908.

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Banks (1895) describes the genus *Oribatodes* from five specimens taken at different times in rotten debris under loose bark of dead trees, at Sea Cliff, N. Y. He describes this new genus in part as follows: “. . . the tarsus with but one claw, the genital opening is large and just in front of the larger anal opening, not well separated from it. The roughened appearance of the only species known to me distinguishes it from its allies.” In the same article he designates the type species as *O. mirabilis*, but makes no drawing of the new genus and species.

Ewing (1917) in his key to the beetle mites designates *Oribatodes* with monodactyle tarsal claws and smooth integument. No drawing accompanies the key and no mention is made of the genital and anal openings.

Berlese (1910) describes a monodactyle species from Washington, D.C., as *Tegeocranus longisetus*, and illustrates by a dorsal figure his new species. This figure shows the species with a roughened integument and 11 pairs of seta on the hysterosoma.

Banks (1906) describes *Cepheus lamellatus* from a single specimen taken at Blue Hill, Massachusetts. This species has 10 pairs of dorsal setae, is roughly reticulate; the genital aperture is less than one-half its length in front of the much larger anal opening. Jacot (1928) places both *Cepheus lamellatus* Banks, and *Tegeocranus longisetus* Berlese in *Cepheus* (*Oribatodes*) *mirabilis* (Banks), 1895. Although Banks' *C. lamellatus* and Berlese's *T. longisetus* are both figured in the original drawings as possessing long hairs on the hysterosoma, these species appear to differ in that the lamellae are joined in *T. longisetus*, but distinctly separate in *C. lamellatus*.

Balogh (1961) apparently follows Jacot (1928) in this synonymy and figures Berlese's species as *Oribatodes mirabilis* Banks.

Collecting in the western part of the United States has uncovered a large cepheid mite which superficially resembled *O. mirabilis*, but which differs from this species in its three tarsal claws, widely separated anal and genital openings and a rather smooth integument. These and other differences are so pronounced that the writers consider this to be a new genus and a new species. The diagnoses and descriptions follow.

Sphydrocephus, gen. nov.

Named from the Greek, *sphodros*, strong, because of its strongly sclero-

tized tectopodia, which differ from other cepheids, and the sclerotizations of the apodematal structure beneath the setae on the dorsum of the notogaster and the ventral apodematal arrangement.

Diagnosis: Lamellae broad, marginal, projected over and completely covering rostrum; rostrum sharply pointed, rostral hairs subterminal; interlamellar hairs as long as lamellae; pseudostigmata inserted in bases of lamellae; hysterosoma with a circular, internal, sclerotized apodeme connecting the setal bases of dorsal setae beneath integument; camerostome with a prominent, hinged mentum, posteriorly articulated with large condyles, chelicerae small, robust; tectopodia I and II prominent, heavily sclerotized, projected laterally; tectopodia III and IV large, transverse, sclerotized ridges posterior to acetabulae of legs III, IV; heterotridactylous; genital and anal openings widely separated.

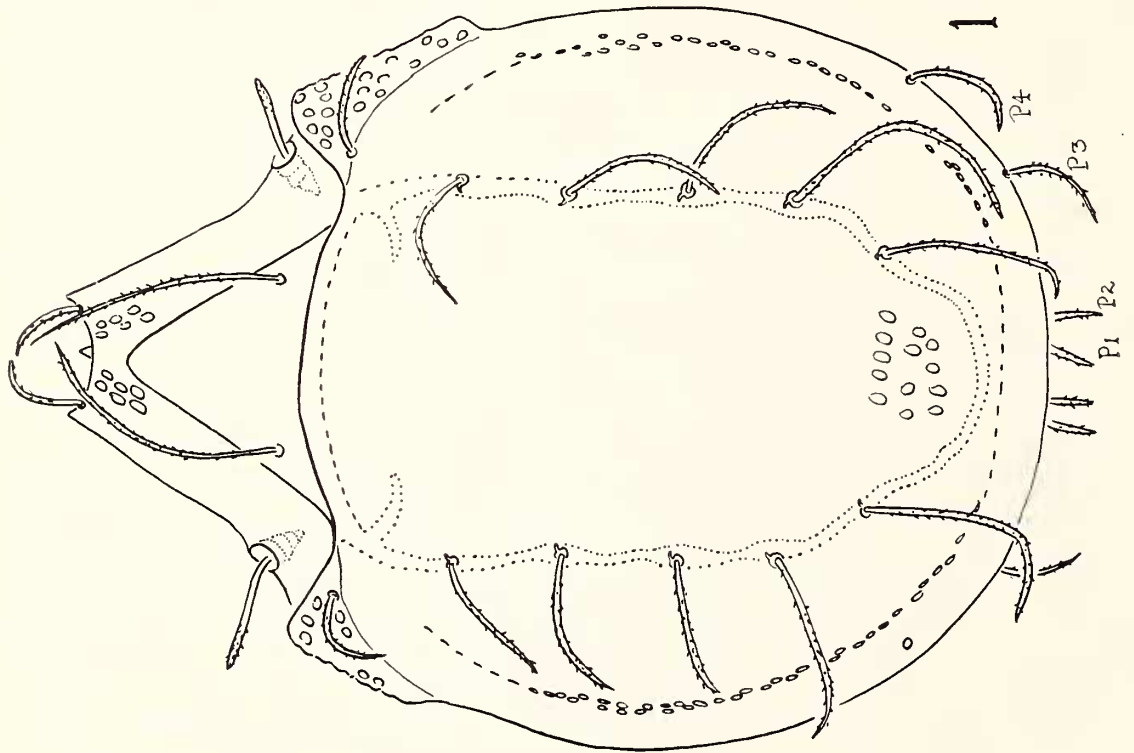
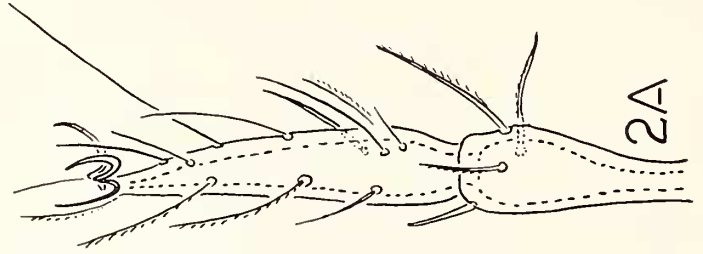
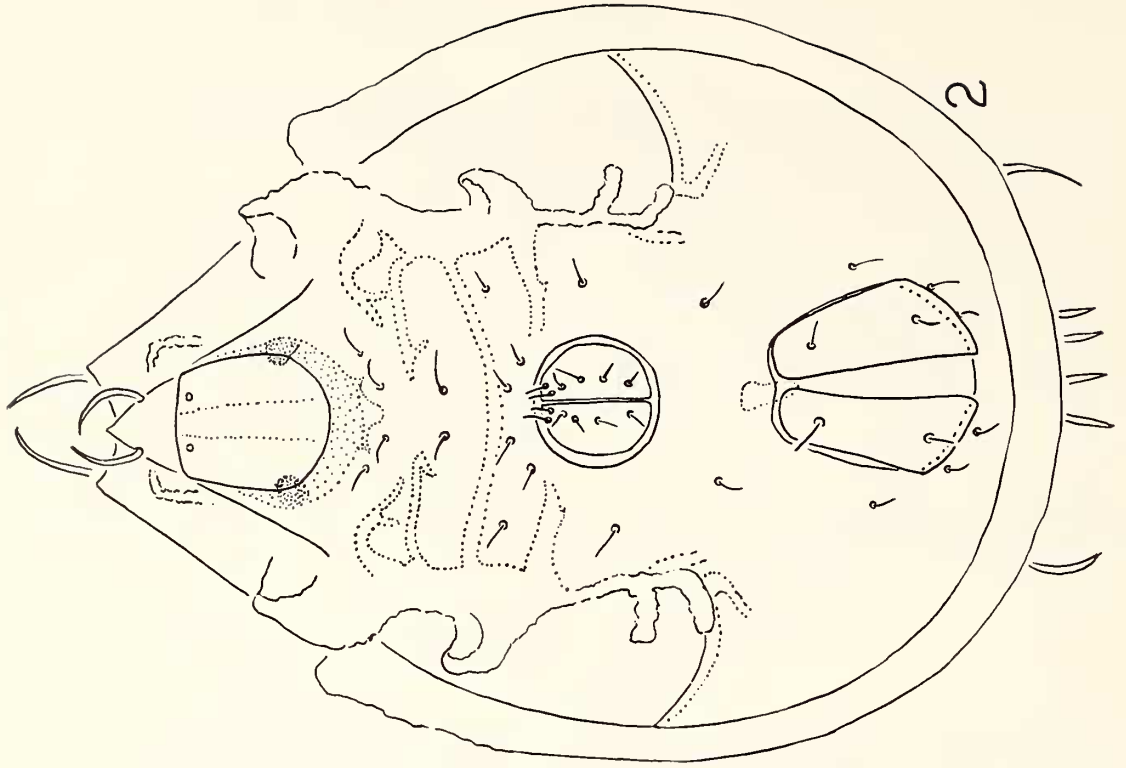
Sphodrocephus tridactylus, n. sp.

(Figs. 1, 2)

Description: Reddish-brown, mahogany color; propodosoma broadly triangular, one-fourth as long as hysterosoma; rostrum not visible from above, covered by lamellae, except for sharply pointed tip, rostral hairs finely serrate, one-third as long as lamellar hairs, inserted subterminally at lateral margins of rostrum, projected anteriorly beyond translamella, only partly visible from above; lamellae wide, flattened plates, projected anteriorly over rostrum, coalesced medially with translamella to form a broad, indented anterior margin, surrounding pseudostigmata at bases, surface sculptured; lamellar hairs as long as width of anterior margin of coalesced lamellae, finely pectinate, decurved, inserted in anterior margin medial to lateral point of lamella; interlamellar hairs as long as lamellae, decurved, finely pectinate, extended anteriorly beyond margin of translamella, inserted at level of pseudostigmata twice the width of insertion areola from medial margins of lamellae; pseudostigmata vase-shaped, aperture circular and three times as wide as diameter of pedicel of pseudostigmatic organ; pseudostigmatic organ about as long as lamellar hairs, narrowly clavate.

Hysterosoma nearly circular, anterior margin of dorsosejugal suture roundly curved medially, incised slightly posterior to lamellae; roughly sculptured, squarish shoulders at antero-lateral margins, each shoulder with a long, curved, pectinate seta at level of dorsosejugal suture; five pairs of long, pectinate, dorsal setae arranged in a slightly curved, longitudinal row midway between lateral margin and median area of dorsum of notogaster, each insertion with a tiny curved, internal spur, the entire setal row demarcated beneath integument by a linear, sclerotized apodematal structure connecting all setal insertions in the row and coalesced anteriorly on each side with lateral ends of the sclerotized bar of dorsosejugal suture; pairs of bristles P: 1 and P: 2 at posterior margin, shorter than other setae; P: 3 and P: 4 half as long as dorsal setae, inserted near postero-lateral margin; areae porosae numerous, near lateral margins of notogaster in linear arrangement; sculpturing as in figure 1.

Camerostome attenuated anteriorly, drop-shaped, basal two-thirds with a



strongly sclerotized mentum articulated at postero-lateral corners with two prominent internal, heavily sclerotized condyles; chelicerae small, with incisive digits (Fig. 2); tectopodia I large, rugose, as long as width of camerostome, tectopodia II a third as large as tectopodia I, sculptured like tectopodia I; tectopodia III and IV prominent, sclerotized bars adjacent to coxal acetabulae, tectopodia IV continuous with sclerotized curved transverse bar that extends to lateral margin of ventral plate; apodematal and setal arrangement as seen in figure 2, apodemata I doubly curved, apodemata II a sclerotized, transverse bar anterior to genital aperture, apodemata III extended nearly to genital aperture at medial tip, apodemata IV coalesced with sclerotized structure of tectopodia IV; genital aperture circular, situated its diameter anterior to anal aperture, each genital cover with six setae, g: 1 and g: 2 in antero-medial corner of cover, g: 3 closer to g: 2 than to g: 4; g: 5, g: 6 subequally spaced posteriorly, closer to medial margin of cover than to lateral, setae simple, subequal in length; aggenital setae midway between genital and anal aperture as seen in figure 2; anal aperture trapezoidal, longer than broad, nearly twice as large as genital opening, anal covers long, each with two setae; adanal setae inserted close to anal aperture, ada: 1 and ada: 2 posterior to opening, ada: 3 lateral to aperture and midway between ends of covers.

All legs heterotridactylous as seen in figure 2A.

Length 720 μ , hysterosoma 570 μ ; width 570 μ .

One holotype specimen and 12 paratypes were collected at Mirror Lake, Wasatch County, Utah, 31 August 1948 by S. and D. Mulaik. Additional specimens collected are as follows:

CALIFORNIA 3 specimens from leaves under trees at Patrick's Point State Park, 25 August 1956, by H. and M. Higgins.

UTAH 1 specimen from Diamond Fork Canyon, 17 June 1956 by H. Higgins; 2 specimens from Spruces Recreational Area, Salt Lake County, 24 July 1957 by H. Higgins; 3 specimens from moss, Spruces Recreational Area, Salt Lake County, 13 June 1956 by H. Higgins; 2 specimens from Soapstone, Wasatch County, 4 September 1955 by H. and M. Higgins; 1 specimen from Lost Lake, Wasatch County, 5 September 1955 by H. and M. Higgins; and 1 specimen from Oak City, Millard County, 18 April 1954, by F. Higgins.

WASHINGTON 1 specimen from Chehalis, 19 May 1956 by M. Higgins; 2 specimens from moss, Neah Bay, 23 August 1956, by H. Higgins.

OREGON 2 specimens from Meeker, 19 August 1956 by H. and M. Higgins; 3 specimens from moss on trees, Cottage Grove, 24 August 1956 by H. and M. Higgins.

Figure 1. Dorsal view of *Sphodrocepheus tridactylus*, n. gen., n. sp., legs omitted.

Figure 2. Ventral view of *Sphodrocepheus tridactylus*, n. gen., n. sp., legs omitted.

Figure 2A. Dorso-lateral view of tibia and tarsus I.

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**DIURNAL AND NOCTURNAL LEPIDOPTERA OF
BAY RIDGE WATERFRONT**

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Abstract

A six year survey of a portion of the Brooklyn, waterfront traversed by the Belt Parkway, describes the topography, vegetation, and the lepidoptera netted or observed. Six families, 18 genera, and 27 species of butterflies; and 11 families, 40 genera, and 48 species of moths are reported together with field information. It is concluded that in spite of the cultivation of former waste land, and the encroachment of buildings, leaving little ground for wild vegetation, the lepidoptera persist as long as the respective food plants for their larvae have a chance of survival however precarious.

The area under consideration extends from 69th Street to the Narrows at Fort Hamilton in Brooklyn, New York. This winding stretch of shore line is about two and one half miles long, free of any docking facilities, and traversed by the New York Belt Parkway. Its direction runs true north to south, bordered on the west by the waters of New York Bay, and on the east by Shore Road, with an iron picket fence separating the region in its entire length from Shore Road with apartment houses and smaller dwellings at its eastern side.

The topography includes long expanses of grassy fields, gently inclined pathways, and sharply rising slopes fusing at the Narrows with the escarpments of Fort Hamilton which, at the present